

### **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

1. (Currently Amended) A method for fabricating a light-emitting device, which comprises the steps of:

forming at least one compound semiconductor layer based on gallium nitride and being an active layer or a part of an active layer sequence, the at least one compound semiconductor layer being a light-emitting layer; and

setting growth parameters used during production of the compound semiconductor layer such that, at least in some cases in a vicinity of dislocations in the compound semiconductor layer, regions are produced in the compound semiconductor layer having a lower thickness than remaining regions of the compound semiconductor layer;

wherein said regions with the lower thickness are formed to be less than half as thick as the remaining regions of the compound semiconductor layer in the final structure of the light-emitting device; and

wherein the light-emitting device is Indium free, and the light-emitting layer comprises  $\text{Al}_y\text{Ga}_{1-y}\text{N}$ , where  $0 < y \leq 1$ .

2. (Previously Presented) The method according to claim 1, which further comprises: providing a substrate;

forming a first coating layer formed from a compound semiconductor based on gallium nitride of a first conductivity type on the substrate;

forming the compound semiconductor layer over the first coating layer; and

forming a second coating layer formed from a compound semiconductor based on gallium nitride of a second conductivity type over the light-emitting layer, a composition of the compound semiconductor layer based on gallium nitride differing from a composition of the compound semiconductor of the first and second coating layers.

3. (Canceled).

4. (Original) The method according to claim 1, which further comprises forming the compound semiconductor layer from an  $\text{In}_x\text{Al}_y\text{Ga}_{1-x-y}\text{N}$  compound semiconductor, where  $0 \leq x \leq 1$ ,  $0 \leq y \leq 1$  and  $x + y \leq 1$ .

5. (Original) The method according to claim 4, which further comprises setting  $x = 0$ .

6. (Original) The method according to claim 2, which further comprises doping the light-emitting layer with a p-type foreign substance and/or an n-type foreign substance.

7. (Original) The method according to claim 2, which further comprises forming the first coating layer from a  $\text{Ga}_u\text{Al}_{1-u}\text{N}$  compound semiconductor where  $0 < u \leq 1$ .

8. (Original) The method according to claim 2, which further comprises forming the second coating layer from a  $\text{Ga}_v\text{Al}_{1-v}\text{N}$  compound semiconductor where  $0 < v \leq 1$ .

9. (Original) The method according to claim 2, which further comprises forming the first coating layer, the compound semiconductor layer and the second coating layer in succession on the substrate using a metal organic chemical vapor deposition process.

10. (Original) The method according to claim 2, which further comprises forming a buffer layer on the substrate, and the first coating layer is then formed on the buffer layer.

11. (Original) The method according to claim 10, which further comprises forming the buffer layer from a  $\text{Ga}_m\text{Al}_{1-m}\text{N}$  compound semiconductor where  $0 \leq m \leq 1$ .

12. (Original) The method according to claim 2, which further comprises forming the substrate from a material selected from the group consisting of sapphire, silicon carbide, zinc oxide and gallium nitride.

13. (Original) The method according to claim 1, which further comprises forming the active layer sequence with a quantum film structure.

14. (Original) The method according to claim 13, which further comprises forming the quantum film structure to include at least one GaN quantum film.

15. (Original) The method according to claim 14, which further comprises forming the quantum film structure as an InGaN/GaN quantum film structure.

16. (Original) The method according to claim 13, which further comprises forming the quantum film structure with at least one undoped GaN quantum film.

17. (Original) The method according to claim 13, which further comprises forming the compound semiconductor layer with a GaN quantum film or with an intrinsic GaN quantum film.

Claims 18-33 (Canceled).

34. (Previously Presented) The method according to claim 13, wherein forming the at least one compound semiconductor layer includes forming the active layer or a part of the active layer sequence of the light emitting device.

35. (Currently Amended) A method for fabricating a light-emitting device, which comprises the steps of:

forming at least one compound semiconductor light-emitting layer based on gallium nitride and being an active layer or a part of an active layer sequence, the at least one compound semiconductor layer being a light-emitting layer; and

setting growth parameters used during production of the compound semiconductor layer such that, at least in some cases in a vicinity of dislocations in the compound semiconductor layer, regions are produced in the compound semiconductor layer having a lower thickness than remaining regions of the compound semiconductor layer;

wherein said regions with the lower thickness are formed to produce shielding energy barriers, which suppress diffusion of charge carriers toward the dislocations and prevent non-radiating recombination of electron-hole pairs at the dislocations~~[[,]]~~; ~~and~~

wherein said regions with the lower thickness are less than half as thick as the remaining regions of the compound semiconductor layer in the final structure of the light-emitting device; and

wherein the light-emitting device is Indium free, and the light-emitting layer comprises  $\text{Al}_y\text{Ga}_{1-y}\text{N}$ , where  $0 < y \leq 1$ .